Fibre Channel SAN Expansion using IP SANs

Dr. Joseph L White
McDATA Corporation
3850 N. First Street, San Jose, CA 95134
+1-408-519-3744
Joe.White@McDATA.com

Abstract

Development of effective IP based SANs and devices extend the boundaries and connectivity of traditional FC SANs. These new IP based extensions must exist and work within the estabilished mission-critical SAN requirements of high throughput, low latency, robust, and high availability while providing increased scalabilty and connectivity within the confines of "real world" routed IP networks. Properly implemented, IP SANs introduce storage services to the Global Information Grid (GIG) and are a foundational enabler of network-centric warfare. Protocols within this area are iSCSI (internet SCSI), iFCP (internet Fibre Channel Protocol), FCIP (Fibre Channel over IP), iSNS (internet Storage Name Service). Each of these protocols has a different set of benefits and challenges within the expanded SAN environment as well as sharing some common characteristics such as performance over high speed, long delay networks. Each of the SAN characteristics and each IP storage protocol will be discussed along with illustrative research and real world deployments. The unique characteristics and challenges of FC and IP integration will be addressed.